Using the Thread Networking Protocol for IoT Applications with embedded Linux

Thursday, 27 August 2020 07:45 (40 minutes)

The IoT landscape has many competing protocols and technologies for enabling communication between sensor End Nodes, Embedded Linux Edge devices, and ultimately cloud resources. One such technology is the Thread Network Protocol, an IPv6 based, Meshing, 802.15.4 protocol that allows for on and off mesh device-to-device, and device-to-cloud communication.

This talk aims to give a brief introduction to Thread, the advantages to using Thread instead of generic Linux IEEE 802.15.4 WPAN, and identify the challenges encountered while bringing up a Thread Border Router using Buildroot.

We will use the freely available OpenThread project released by Google, and show the use of standard mechanisms (DHCP, DNS, UDP and CoAP) to allow for Thread End Nodes to discovery our Thread Border Router on the Mesh Network, and server resources on the off mesh local network.

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Session Classification: You, Me, and IoT Two MC

Track Classification: You, Me, and IoT Two MC